

Serial No.: 10/593,509

PU040040

Amendments to the Claims

Please **amend** claims 1, 6-9 and 11 as indicated. Please **cancel** claims 4-5 and 10. Please **add** new claims 13-14.

1. (Currently Amended) A method for reducing distortion in images provided by a display system employing an array of individual pixel elements in a Spatial Light Modulator ~~Modulating~~ elements comprising the steps of:
 - providing a set of pixel values corresponding to pixels of an image to be displayed wherein the number of pixel values comprising said set is greater than the number of available SLM elements;
 - adjusting at least some of said pixel values to provide a set of adjusted pixel values;
 - generating at least a first set of pixels and a second set of pixels from said set of adjusted pixel values;
 - transmitting light from a relay optics portion onto micromirror elements containing adjusted first and second pixel group sets;
 - reflecting said transmitted light containing said adjusted first and second pixel sets off an optical element at varying angles to provide spacing between said pixel group set when projected onto a display screen;
 - displaying said image on said display screen as a matrix of pixels comprising said first set of pixels and said second set of pixels, wherein the number of pixels of said matrix is greater than the number of said SLM elements, and wherein at least one of the pixels of said first set overlaps at least one of the pixels of said second set;
 - wherein said adjusting step is carried out by adjusting pixel values of said set of pixel values to compensate for image distortion due to overlapping pixels of said matrix; wherein said adjusting step includes a step of scaling a first respective pixel value of said set of pixel values in accordance with a first scaling factor, β , summing values of pixels overlapping said first respective pixel values

Serial No.: 10/593,509

PU040040

and scaling the sum by a second scaling factor, α , and subsequent to said scaling step, subtracting said first respective pixel value from said summed pixel values to determine an adjusted value of said first respective pixel value.

2. (Original) The method of claim 1 wherein said set of pixel values comprises luminance values.
3. (Original) The method of claim 1 wherein said set of pixel values comprises chrominance values.
4. (Cancelled).
5. (Cancelled).
6. (Currently Amended) The method of ~~claim 4~~ claim 1 wherein said first scaling factor is adjustable.
7. (Currently Amended) The method of claim ~~5~~ 1 wherein said second scaling factor is adjustable.
8. (Currently Amended) The method of claim ~~5~~ 1 wherein said first scaling and second scaling factors are related according to the equation: $\beta = 1 + 4\alpha$.
9. (Currently Amended) A system employing an array of individual pixel elements in a Spatial Light Modulator ~~Modulating elements~~ to display video images comprising:
a source of video image data comprising at least one set of pixel values corresponding to pixels of an image to be displayed wherein the number of pixel values in said at least one set is greater than the number of SLM individual pixel elements comprising in said array SLM, said at least one set of

Serial No.: 10/593,509

PU040040

pixel values further comprising a respective pixel value and a plurality of pixel values corresponding to pixels that overlap a respective pixel having said respective pixel value;

a pixel processor further comprising a filter, said filter coupled to said source to receive said at least one set of pixel values, said filter configured to adjust at least one pixel value in said set to provide an adjusted set of pixel values, said filter includes at least one of a first scaling factor for scaling said respective pixel value and a second scaling factor for scaling said plurality of pixel values that overlap said respective pixel value;

a pixel group generator coupled to said filter to receive said adjusted set of pixel values, said pixel group generator providing at least a first group of pixels and a second group of pixels based upon said adjusted set of pixel values;

a relay optics portion configured for transmitting light onto micromirror elements containing an adjusted first pixel data group and an adjusted second pixel data group;

an optical element configured for reflecting at varying angles said transmitted light containing said adjusted first pixel data group and said adjusted second pixel data group to provide spacing between said adjusted first and second pixel groups when said adjusted pixel groups are projected onto a display screen;

wherein said SLM individual pixel elements in said SLM cooperate cooperating with said pixel group generator to display said image as a matrix of pixels comprising said first group of pixels and said second group of pixels, wherein at least one of the pixels of said first group overlaps at least one of the pixels of said second group in said matrix;

wherein said filter is configured to adjust pixel values of overlapping pixels to compensate for image distortion due to said overlapping pixels.

Serial No.: 10/593,509

PU040040

10. (Cancelled).

11. (Currently Amended) The system according to claim ~~10~~ 9 wherein at least one of said first and second scaling factors is adjustable.

12. (Original) The system according to claim 9, wherein said pixels comprise diamond shape pixels.

13. (New) The system according to claim 9, wherein said filter is further comprised of an adder configured for summing said plurality of pixel values corresponding to pixels that overlap said respective pixel value.

14. (New) The system according to claim 13, wherein said filter is further comprised of a subtractor for subtracting said first respective scaled pixel value from said summed scaled pixel values to determine an adjusted value of said first respective pixel value.